New York State Department of Transportation
Yellow Flag NB23U4W011

By: Malav Shah
Flag Date: April 24, 2023

Superseding Information:

This flag supersedes: YF NB2222W008

Structure Information

BIN: **1065318**
Feature Carried: 278I278IX2M23027
Feature Crossed: 6TH AVENUE
Orientation: 8 - NORTHWEST

Region: 11 - NEW YORK CITY
County: KINGS
Political Unit: City of NEW YORK
Approximate Year Built: 1962

Posted Load Matches Inventory : Yes
Bridge Load Posting (Tons) : Not Posted for Load

Primary Owner: New York State Department of Transportation
Primary Maintenance Responsibility: 12 - State - Subcontracted to another Party
Typical or Main Span Type: 3 - Steel, 02 - Stringer/Multi-Beam or Girder
This Bridge is not a Ramp
Number of Spans: 322

Verbal Notification Information

Person Notified: Heinz Joachim, P.E.
Date: April 24, 2023 1:00:00 PM

Of: NYSDOT Region 11

Signature Information

Signature: Malav Shah, P.E. 106620-1
Date: May 24, 2023

Reviewed By: Robert Kemp
Date: May 24, 2023

Attachments: 8

Flagged Elements

Parent Element	Element	Total Quantity	Unit
	Span Number : 255		
	107 - Steel Open Girder/Beam	989	ft
	PR831 - Steel Beam End	42	each

Flagged Condition Description

This Yellow Flag No. NB23U4W011 is superseding Yellow Flag No. NB2222W008.

Location: Span 255, Girder G1 at Pier 254

Description: Girder G1 web along the connection angles exhibits 54% overall section loss (previously noted as 55% section loss) for the full height of the web. Additionally, the left connection angle exhibits full height, 100% section loss along the fillet of the connection angle. The right connection angle of Girder G1, from the bottom cope of the web of Girder G1 to the top cope of the web of Girder G1 has up to 20% section loss on full face with a 2"L x 2"H triangle area exhibiting 100% section loss in upper right corner. However, the right connection angle continues to provide a positive connection for the girder to the pier cap. The right connection angle below the bottom cope of the Girder G1 web, exhibits up to 90% section loss with three holes measuring 3.5"L x 3"H, 1.5"L x 1.75"H and 4"L x 3.5"H.

There has been no significant changes to this flagged conditon since the previous inspection.

Notes:

1.The affected member, Girder G1 is a load path redundant steel girder consisting of a web depth of 19.5” inches and thickness of 0.612 inches and is located under the deck in the roadway, approximately 12” off the edge of curb line/safety walk. All dimensions were measured in the field.

2.Girder G1 web along the bottom flange near the pier cap, exhibits up to 35% section loss for 12”L x 2”H area.

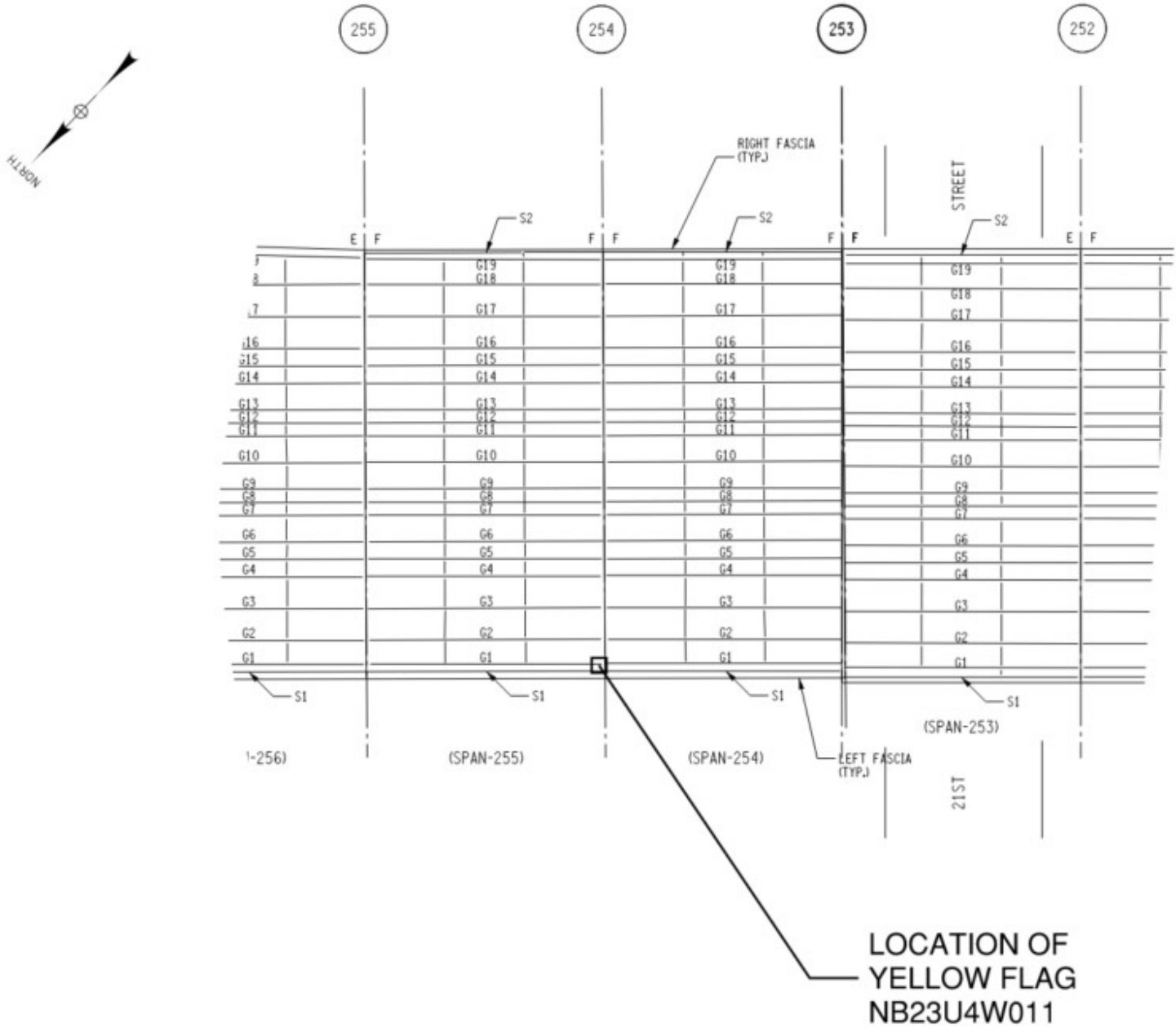
3.The adjacent Girder G2, is 5’-5” on center and exhibits up to 1/8" section loss along the connection angle for 2”W x full height.

4.The adjacent Stringer S1, approximately 24” on center, acts as a support for the railing and curb area above and has up to 20% section loss in the web along connection angle and 3”L x 2.5”W hole at the right side of the angle at connection. Right bottom flange has section loss of approximately 50% for FW x 1-1/2'L. Left bottom flange angle has up to 30% section loss for FW x 1-1/2'L. Connection angles on both sides has up to 30% section loss on full face with up to 20% section loss in rivet heads of both connection angles and bottom flange angles.

5. A right single lane closure on 3rd Avenue Eastbound between 20th and 21st streets with a 60’ bucket truck was used to access platforms installed by contractor for on-going construction/painting work, to inspect this location.

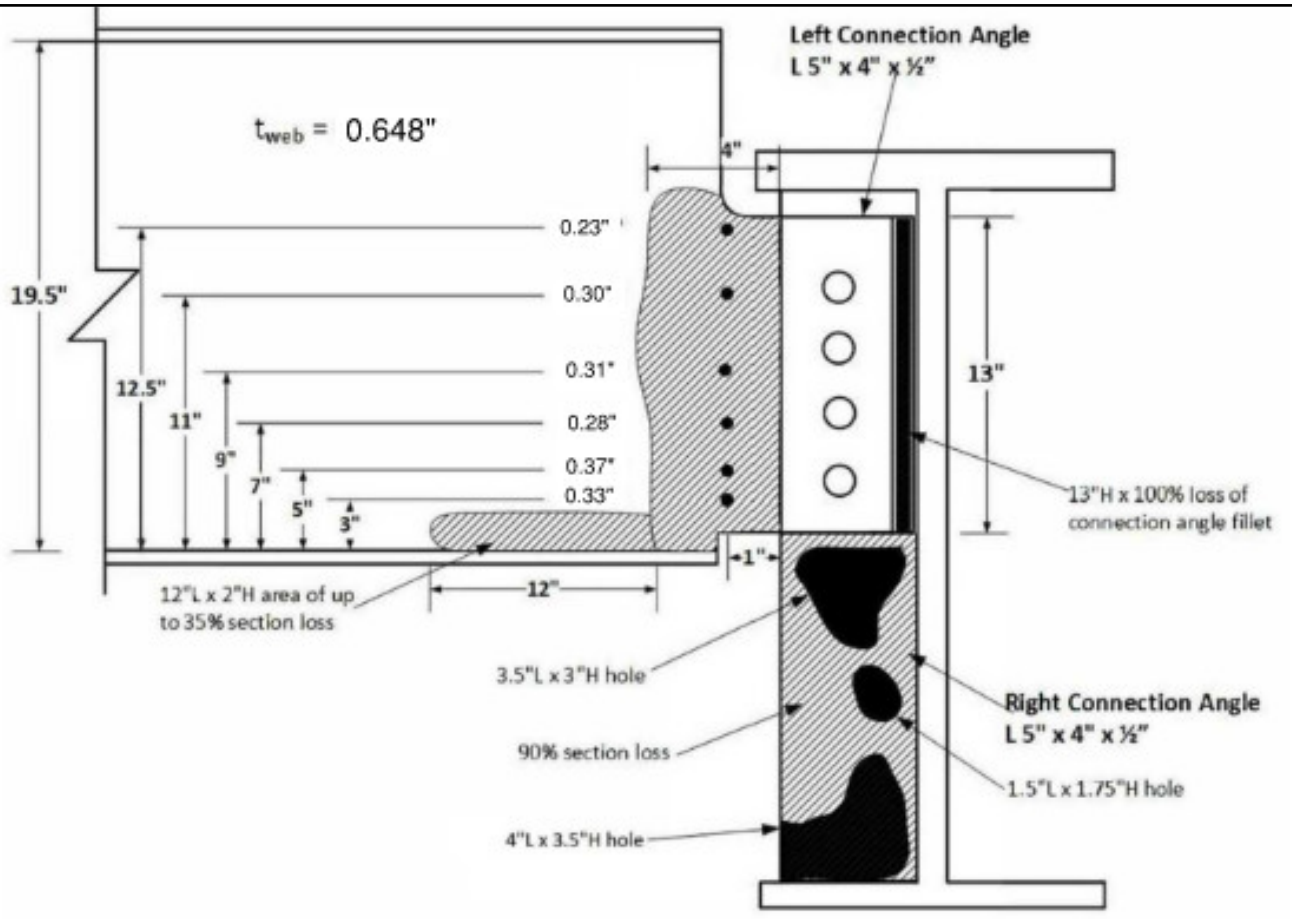
Flag Photographs

Photo Number: **1** Photo Filename: **NB23U4W011 LOCATION PLAN.JPG**



Attachment Description: **Yellow Flag Location Plan**

Photo Number: **2** Photo Filename: **NB23U4W011 CONDITION SKETCH.JPG**



Section Loss Calculations:

Original Girder Web Thickness = 0.648" (as measured in the field)

As Built shearing web area = 13" H x 0.648" T = 8.42 sq. in.

Average remaining web section = [0.33 x 3"] + [0.37 x 2"] + [0.28 x 2"] + [0.31 x 2"] + [0.30 x 2"] + [0.23 x 1.5"]
= 3.97 sq. in.

Web section loss – ((8.42 – 3.97)/8.42) x 100% = 54.21% SAY = 54%

SKETCH FOR YELLOW # NB23U4W011
SPAN 255, GIRDER G1 AT PIER 254
(LOOKING RIGHT)
N.T.S

Attachment Description: **Yellow Flag Condition Sketch**

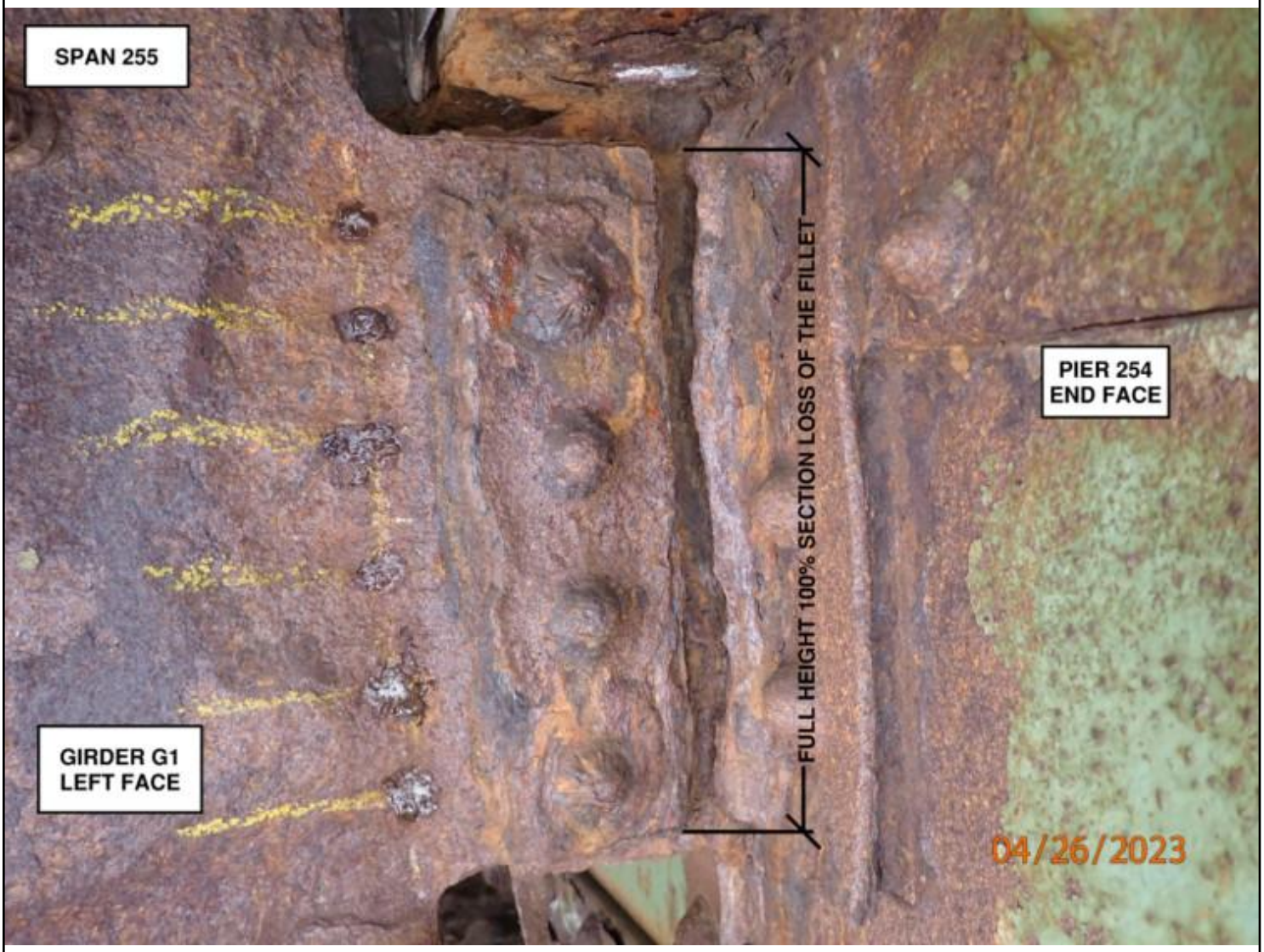
Photo Number: **3** Photo Filename: **P5042888.JPG**

Attachment Description: **Span 255, Girder G1 at Pier 254. General view of the flagged location at Pier Cap connection, above platforms. Looking Begin-Up.**

Photo Number: **4** Photo Filename: **P4262577.JPG**

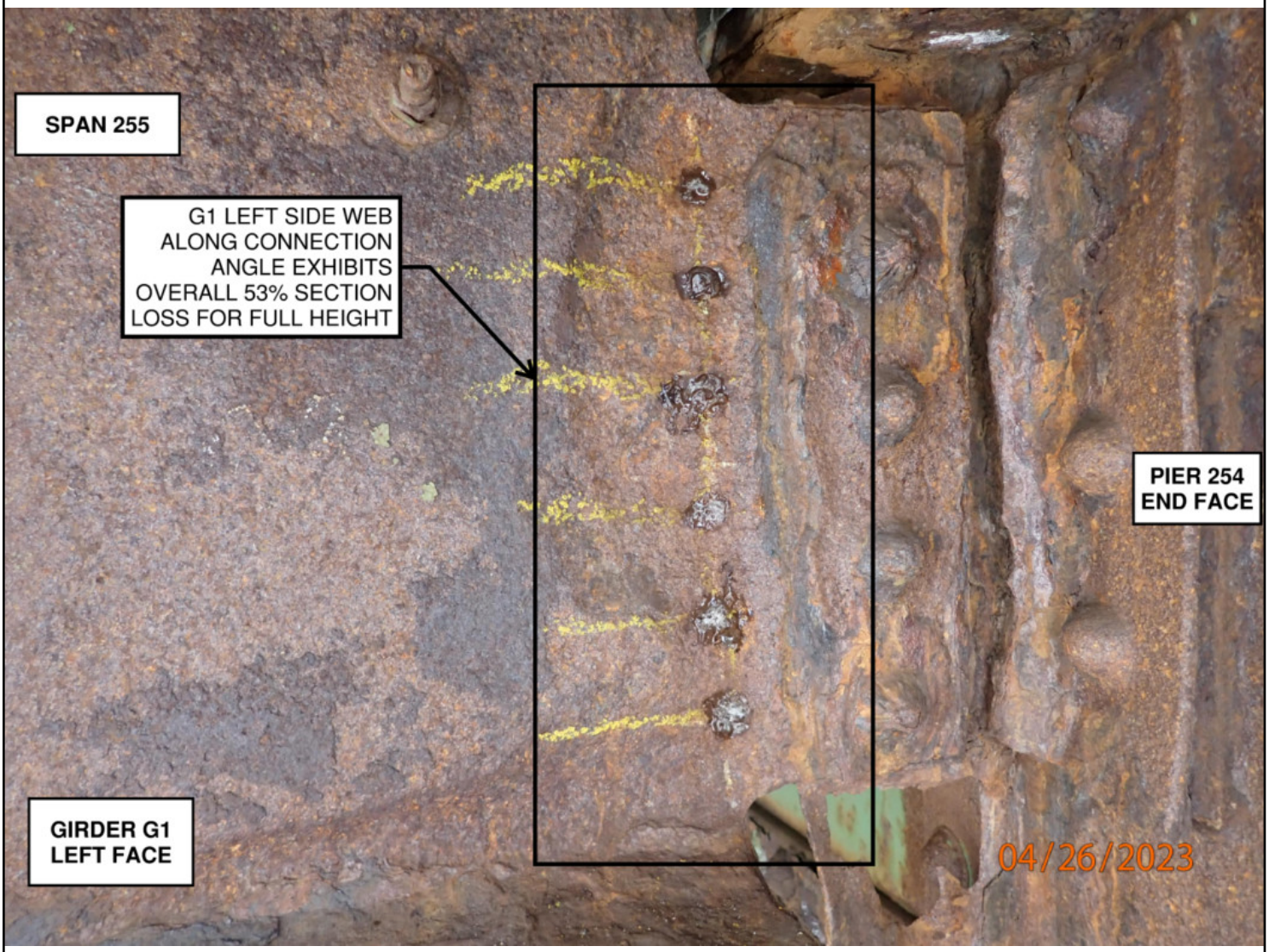
Attachment Description: **Close-up view of Girder G1 end showing heavy section loss to the girder web and corrosion holes in the right connection angle. Looking Begin-Right.**

Photo Number: **5** Photo Filename: **P4262579.JPG**



Attachment Description: **Close-up view of the full height 100% section loss along the fillet. Looking Begin-Right.**

Photo Number: **6** Photo Filename: **P4262578.JPG**



Attachment Description: **Close-up view of Girder G1 left side web along connection angle exhibits overall 54% section loss for full height x 1-3" wide. Looking Begin-Right.**

Photo Number: **7** Photo Filename: **P4242487.JPG**

Attachment Description: **Close-up view of girder G1 right connection angle exhibits three corrosion holes measuring 3.5”L x 3”H, 1.5”L x 1.75”H and 4”L x 3.5”H. Looking Right.**

Photo Number: **8** Photo Filename: **P4242493.JPG**

Attachment Description: **Close-up view of Girder G1 right connection angle. Connection angle from the bottom cope of the web of Girder G1 to the top cope of the web of Girder G1 has up to 20% section loss on full face with a 2"L x 2"H triangle area exhibiting 100% section loss in upper right corner. Looking Begin-Left**